

Design and prototyping

CS4784: HCI Capstone

Virginia Tech

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Preview

- Chapter 7 of *UX Book*
- Ideation
- Personas
- Brainstorming
- Sketching
- Prototyping
- Mockups

Ideation

- Active, fast-moving collaborative group process for forming ideas for design
- Extensive iteration: try, try, and try again
- Always informal
- If you only have 2-3 alternatives, you're doing it wrong
- Focus on idea creation, not critique (yet)
- Draw inspiration from contextual inquiry
- Outlining as verbal sketching

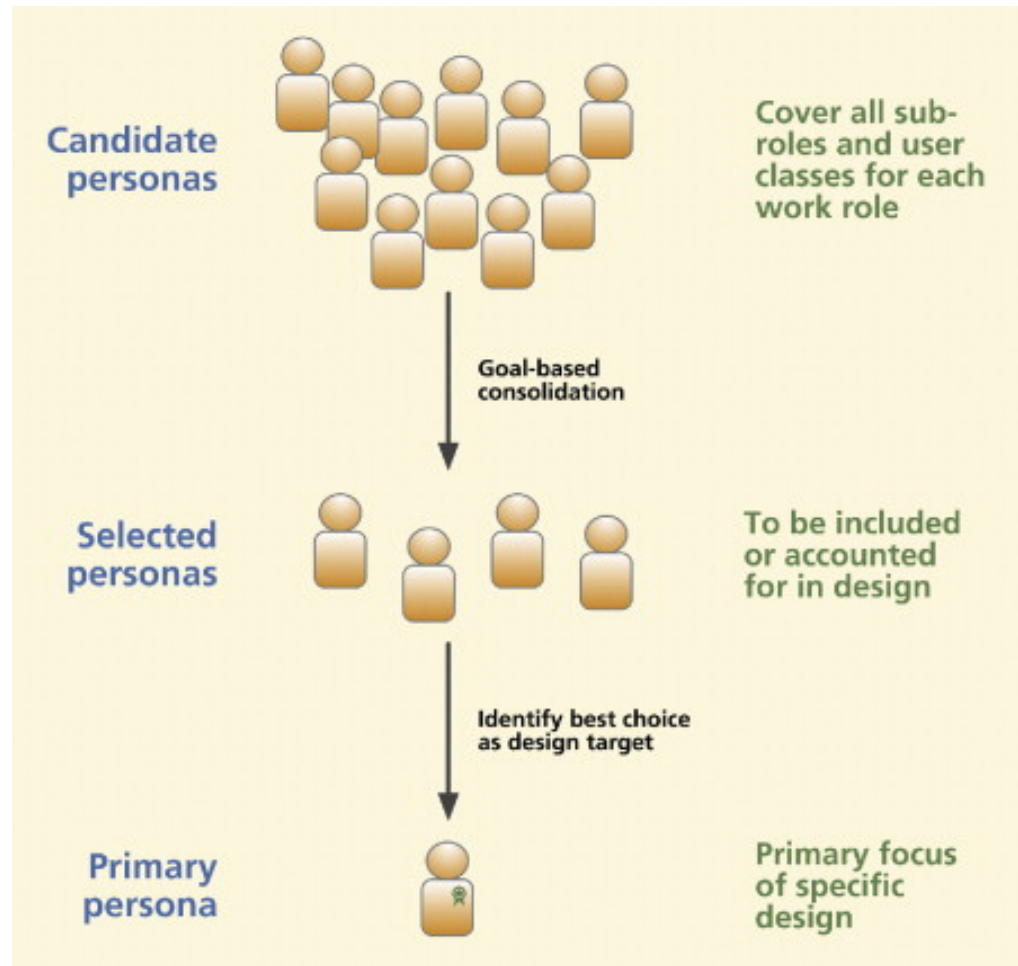
Physical environment for ideation



User personas

- Descriptions of hypothetical users with specific characteristics
- Helps avoid temptation to design for yourself
- Helps avoid temptation to design for everyone: “Better to have small % of users completely satisfied than entire population half satisfied”
- Choosing personas: candidates, selected, primary

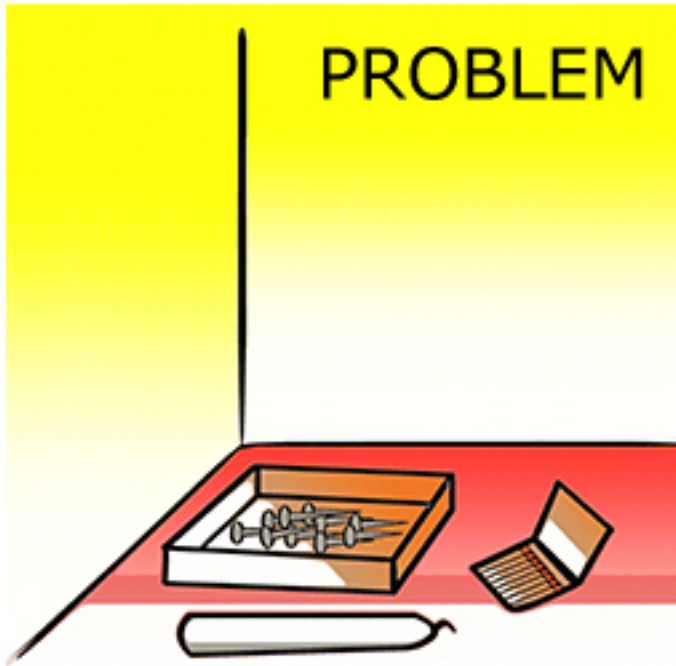
Creating a persona



Characteristics of good personas

- Rich
- Relevant
- Believable
- Specific
- Precise
- Memorable

Brainstorming



From Medill School of Journalism

IDEO's brainstorming rules

- Defer judgment
- Encourage wild ideas
- Build on the ideas of others
- Stay focused on the topic
- One conversation at a time
- Be visual
- Go for quantity



Group brainstorming

- Which process yields more creative ideas?



A group of people
brainstorming alone

and



A group of people
brainstorming together

Sketching

- NOT just about drawing or making a picture
- NOT just something to look at
- A conversation among members of the design team
- Used for exploring possibilities (not prototypes)
- Tentative, noncommittal, ambiguous

Sketching



Characteristics of sketching

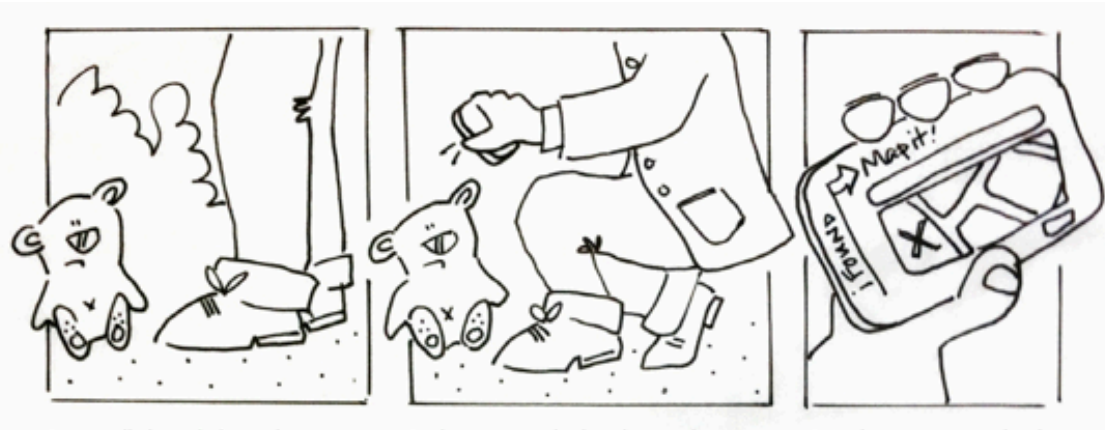
- Everyone can sketch; you do not have to be artistic
- Most ideas are conveyed more effectively with a sketch than with words
- Sketches are quick and inexpensive to create; they do not inhibit early exploration
- Sketches are disposable; there is no real investment in the sketch itself
- Sketches are timely; they can be made just-in-time, done in-the-moment, provided when needed
- Sketches should be plentiful; entertain a large number of ideas and make multiple sketches of each idea
- Textual annotations play an essential support role, explaining what is going on in each part of the sketch and how

(Buxton 2007)

Storyboarding

- Goal: Understand how your software fits into a broader context
- Tell one story
- Set the stage
 - Five w's
- Show key interactions w/ software
- Zoom out and show consequences

Truong et al., "Storyboarding: An empirical determination of best practices and effective guidelines," DIS 2006



On a walk through the park, Marco stumbles across a teddy bear fallen on the side of the path.

Realizing it must be lost, he uses his mobile phone to photograph it where he found it, and takes the bear home.

Once home, Marco uploads the photo to iFound®. The MapIt! function uses the GPS from the photo to record where the bear was found.



As soon as the iFound® match list is generated, Marco sees a photo of the very same bear he has just found. He immediately contacts the finder and they arrange a way to get the bear back to its owner.

The teddy bear is handed off to a very relieved mom.

When it is recorded that the bear has made it safely home, Marco receives a 'thank you' email from iFound®, offering him a choice of coupons for anything from ice cream to flowers. Marco's choice provides useful information to corporate sponsors.

iFound by Beth Kun

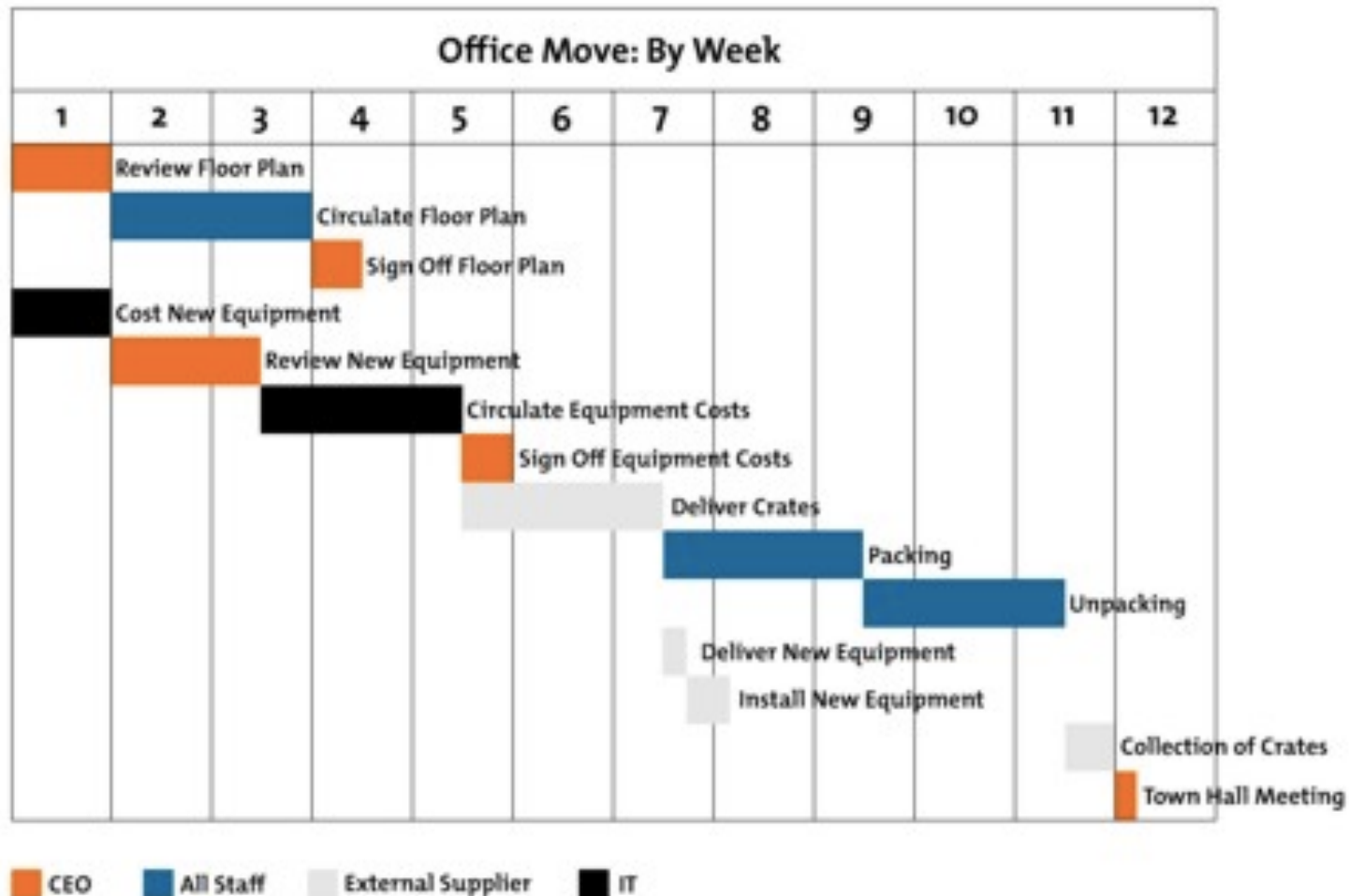
Project plan and timeline

- Goals for each week through end of semester
- Be as specific as possible
- Associate people with tasks as much as possible
- Consider milestone due dates (contextual inquiry, prototype, etc.)
 - You're allowed to move faster! 😊

Project plan and timeline

- Broad goals and deadlines to include
 - What is your plan for contextual inquiry?
 - When are you analyzing the data? Extracting requirements? Brainstorming and sketching?
 - When will low- and high-fidelity mockups be ready? When will you have a functional prototype?
 - What evaluation options are you considering? What would each look like?
 - How might you show ecological validity?
 - How might your product/service make money?
- Keep it brief: 3-4 pages including figures

Project plan and timeline



Upcoming milestones

- Due Wed: team name, read Policy 13000
- Due Friday: project plan, deadlines, meeting w/ sponsor, press release #3
- Contextual inquiry and analysis due March 6
 - Must interview at least 5 people
 - Deliverable: write-up of inquiry process, analysis, interaction requirements
- Start ideation, sketching, etc. in preparation for prototypes due March 18

Next class

- Monday: Read Chapter 11, *UX Book*
- Work on project plan, deadlines
- Meet with sponsor, if you have one